Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis

for the initial

MAJOR FACILITY REVIEW PERMIT

for

City of Sunnyvale Landfill and SMaRT Station®, Environmental Services Department Facility #A5905

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Initial Title V Application No: 7364
District Applications Include All Actions Approved As of March 1, 2013:
(Applications listed in chronological order): 31621, 32273, 3502, 5571, 6832, 13397, 1754, 2229, 4369, 6162, 12674, 23735, and 24517.

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Title V Statement of Basis

City of Sunnyvale Landfill / Environmental Services Department; Site Number A5905
Application Number 7364

A. Background

The City of Sunnyvale, Environmental Services Department (ESD) owns and operates a closed landfill and an active waste transfer and recycling facility. The landfill is known as the City of Sunnyvale Sanitary Landfill, and the waste receiving and recycling center is known as the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®). The combined facility is located in the northern portion of the City of Sunnyvale at the termination of North Borregas Avenue at Carl Road. Sunnyvale Landfill and SMaRT Station grounds are bordered by San Francisco Bay to the North, Baylands Park to the east, Caribbean Drive to the south and private commercial property and undeveloped land to the west.

The Landfill and the SMaRT Station are required to obtain a Title V operating permit due to their proximity to and relationship with the Sunnyvale Water Pollution Control Plant (WPCP) and its Power Generation Facility (PGF) that occupy geographically contiguous property and are controlled by a common entity, the City of Sunnyvale. The WPCP (Plant No. 733) is subject to Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and requires a Title V operating permit due to its emission quantities. Since the Landfill and the SMaRT Station are considered a part of the same facility, they must obtain a Title V permit as well. Title V of the federal Clean Air Act allows sources to permit different emission units under separate Title V permits. Thus, the Landfill and SMaRT Station are permitted under a Title V permit separate from the Sunnyvale WPCP to better coincide with the financial and operational structure of the City. This facility is also subject to BAAQMD Regulation 2, Rule 6, Major Facility review since it is a Major Facility as defined under the Regulation.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is Site # A5905. The background of Site # A5905 and the relationships to Site # A0733 are discussed in more detail below.

At the Bay Area Air Quality Management District (BAAQMD) the Sunnyvale Landfill was initially classified under the Plant # 2253, and the SMaRT station was under Plant # 5905. The WPCP and the City of Sunnyvale Power Generation Facility (PGF) were both classified under

Plant # 733 (Site # A0733). These sites have been reclassified into two facility identification numbers. The SMaRT station and the Sunnyvale Landfill have been classified under Plant # 5905 (Site # A5905), while the WPCP and the PGF remain unchanged under Plant # 733 (Site # A0733).

This application is for the initial Title V permit for the equipment associated with Site # A5905. This equipment includes the closed landfill, an enclosed landfill gas flare, transfer station, and wood waste recycling equipment. The WPCP and PGF facilities, permitted together under Site # A0733, received an initial Title V permit on October 24, 1995, and this permit was last renewed on December 28, 2007. The District is currently reviewing the Title V renewal application (Application # 24582, which was submitted on June 27, 2012) for this facility.

In accordance with District requirements, the City of Sunnyvale Sanitary Landfill (S-8 at Site # A5905) is required to be equipped with a landfill gas collection and control system. The gases collected by the landfill gas collection system are typically transported to the adjacent Site # A0733 and either combusted in PGF the engines to generate power for Site # A0733 or directed to an enclosed flare (A-8). This enclosed flare (A-8) is physically located within the property boundaries of the WWTP, but it is under the control and operation of Site # A5905. The City of Sunnyvale has applied for and received an Authority to Construct for a new flare (A-9) that will replace A-8 in the same location.

All District permit applications for this site that have been reviewed and approved as of March 1, 2013 have been included in this proposed Title V operating permit. There are no other District applications for this site.

B. Facility Description

The Sunnyvale Landfill (S-8) encompasses 93 acres in four separate hills referred to as the West Hill, Recycle Hill, South Hill and East Hill. The landfill began accepting waste around 1920. Wastes received at the landfill consisted of residential, commercial, and industrial wastes, which exclusively originated at the City of Sunnyvale. Filling operations were completed in 1993 and the closure was accomplished in 1994 with approximately 2.29 million Megagrams (Mg) in place. A four-foot thick layer of final cover was placed in 1994 and consists of a minimum two-foot layer compacted foundation soil, a one-foot layer of clay soil, and a top layer of draining topsoil.

The SMaRT Station is a municipal solid waste (MSW) transfer station and recyclable materials recovery facility (MRF). MSW is delivered to SMaRT station where the recyclable materials are sorted and collected for transport to an off-site. The SMaRT Station also accepts source-separated yard trimmings that are hogged on-site and stored for transport off-site.

In accordance with District requirements, a landfill gas collection and control system was installed at this landfill in 1987. This gas collection system collects landfill gas (LFG) from all parts of the Sunnyvale Landfill. As discussed above, collected LFG may be routed to the City of

Sunnyvale PGF (Plant #733) for combustion in IC engines for energy recovery, or to the enclosed landfill gas flare (A-8 or, upon start-up, A-9).

The following sources are addressed in this Initial Title V permit (identified by an S number):

S-1 Solid Waste Transfer Station
S-2 Wood Waste Unloading Operation
S-3 Wood Shredder
S-4 Conveyor
S-5 Wood Chip Processing Hoppers
S-6 Wood Chip Screening Operation
S-7 Diesel Engine for an Emergency Standby Generator
S-8 City of Sunnyvale Sanitary Landfill with Gas Collection System
S-9 Condensate Feed Storage Tank

The abatement devices are as follows (identify by an A number)

A-1 Wet Suppression System
A-5 Baghouse Dust Collector
A-8 Landfill Gas Flare
A-9 Landfill Gas Flare (not yet operating)

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order presented in the permit. Routine changes to the standard permit text in Sections I "Standard Conditions", III "Generally Applicable Requirements", and X "Glossary" are not considered part of the Title V permit renewal process, but maybe made at the discretion of the District during the term of this permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. This permit does not include Title IV or accidental release provisions.

Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24). Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302. Each of the permitted sources has previously been issued a permit to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403. The permitted sources are listed in Table II-A.

Significant sources are those sources that have a potential to emit of more than 2 tons per year of a "regulated air pollutant" (as defined in BAAQMD Rule 2-6-222) or 400 pounds per year of a "hazardous air pollutant" (as defined in BAAQMD Rule 2-6-210). No significant sources have been reported at this facility.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Devices Permitted:

S-#	Description	Make or Type	Model	Capacity
S-1	Solid Waste Transfer Station	Transfer Station - refuse sorting, separation, and recycling		1500 tons per day
S-2	Wood Waste Unloading Operation	Yard Waste and Wood Debris		298 tons per day
S-3	Wood Shredder	Enclosed Jeffrey Rotary Hog	Model 47WBH	255 tons per day
S-4	Conveyor			255 tons per day
S-5	Wood Chip Processing: Two Hoppers (feeding and loadout)	Composting, storing and material handling		255 tons per day
S-6	Wood Chip Screening Operation	BM&M, single deck, shaker type	Chip Screen	255 tons per day
S-7	Diesel Engine for an Emergency Standby Generator	Detroit Diesel engine for Kohler 350 ROZD generator	Model 8V-92TA Year 1992	540 bhp
S-8	City of Sunnyvale Sanitary Landfill	Closed Class III Solid Waste Disposal Site		Max. Design Capacity = 4.203 E6 yd^3 (3.216 E6 m^3) Max. Waste Acceptance Rate = 0 tons/day (This is a closed landfill) Max. Cumulative Waste In Place = 2.52 E6 tons
	Gas Collection System	Active		66 vertical gas extraction wells and 13 horizontal collectors

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
A-1	Wet Suppression System	S-1	BAAQMD 6-1-301 and SIP 6-301	None	≤ Ringelmann 1 for 3 minutes in any hour
A-5	Baghouse Dust Collector	S-3	BAAQMD 6-1-301 and 6-1-310, and SIP 6-301 and 6-310	None	≤ Ringelmann 1 for 3 minutes in any hour and ≤ 0.15 grains/dscf
A-8	Landfill Gas Flare, Sur-Lite, Inc, Model #19805, 45 MM BTU/hour	S-8	BAAQMD 8-34-301.3, see also Table IV-G	Minimum combustion zone temperature of 1400 °F, (3-hour average), see also Table VII-G	Either > 98% destruction of NMOC or < 30 ppmv of NMOC, as CH_4, at 3% O_2, dry
A-9	Landfill Gas Flare (not operating yet), Make and Model to be determined, 18 MM BTU/hour, 600 scfm of landfill gas	S-8	BAAQMD 8-34-301.3, see also Table IV-G	Minimum combustion zone temperature of 1400 °F, (3-hour average), see also Table VII-G	Either > 98% destruction of NMOC or ≤ 30 ppmv of NMOC, as CH_4, at 3% O_2, dry

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility, including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered "significant sources" as defined in BAAQMD Rule 2-6-239. This facility has no unpermitted significant sources.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- California requirements (such as ATCMs)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District or EPA websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

<u>EG and District Regulations for City of Sunnyvale Landfill</u>

Landfills and landfill gas combustion equipment are subject to BAAQMD Regulation 8, Rule 34. This regulation requires landfills that have more than 1 million tons of refuse in place to collect and control the landfill gas that is generated by waste decomposition and specifies numerous operating, monitoring, and reporting requirements for subject operations. Regulation 8, Rule 34 has required that Sunnyvale Landfill be controlled by an active landfill gas collection system and landfill gas control system since 1987.

Landfills and landfill gas combustion equipment may also be subject to either the federal New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for MSW Landfills (40 CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. The EG for MSW Landfills (40 CFR Part 60, Subpart Cc) applies to landfills that have had no design capacity modification since May 30, 1991 but that have accepted waste since November 8, 1987. The Sunnyvale Landfill has had no design capacity modifications since May

30, 1991, but has accepted waste after November 8, 1987. Therefore, the EG is applicable to this disposal facility.

In accordance with 40 CFR Part 60, Subpart Cc (40 CFR Part 60.32c(c)), this landfill was not subject to the requirement to obtain a Title V permit under the designated facility requirements because the landfill has a design capacity of less than 2.5 million Mg. In accordance with 40 CFR Part 60.33(d), existing landfills must submit an initial design capacity report. If a landfill has a design capacity of less than either of the control requirement thresholds (< 2.5 million m^3 or < 2.5 million Mg), then submittal of the initial design capacity report fulfills the requirements of this EG, and no further requirements apply unless the site plans to modify the landfill. The City of Sunnyvale submitted their initial design capacity report on January 3, 2000. This report verified that the design capacity of the Sunnyvale Landfill is greater than 2.5 million m^3 but less than 2.5 million Mg. The City has no plans to increase the design capacity of this landfill or to re-open this closed landfill. Therefore, the City of Sunnyvale has fulfilled the requirements of Subpart Cc and no further requirements apply.

Applicability of 40 CFR Part 64, Compliance Assurance Monitoring (CAM)

Sources at Title V facilities may be subject to the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64. The District has reviewed applicability of the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64, for this facility. Three criteria specified in 40 CFR Part 64.2(a)(1-3) must be met for CAM to apply:

- The source must be subject to a federally enforceable emission limit for a regulated air pollutant, other than an exempt limitation.
- The source must use a control device to achieve compliance with this emission limitation.
- The pre-controlled emissions of the specific pollutant being controlled must be greater than the major facility emissions threshold for that pollutant.

City of Sunnyvale Landfill with Gas Collection System (S-8); abated by Landfill Gas Flare (A-8 or A-9): At this facility, the landfill waste decomposition process and its related emission control devices (S-8, A-8, and A-9) are exempt from the first CAM applicability criteria, 40 CFR Part 64.2(a)(1), pursuant to 40 CFR Part 64.2 (b)(1)(i), because the landfill and landfill gas control and landfill gas control systems are subject to the EG and NESHAP requirements identified above, and these EG and NESHAP requirements were adopted pursuant to Section 111 and 112 of the Clean Air Act after November 15, 1990. Since the applicable federal requirements contain adequate monitoring provisions, additional compliance assurance monitoring is not necessary. Furthermore, the maximum potential uncontrolled emissions from this landfill are projected to be 40 tons/year of NMOC. Since the landfill and its related control devices do not satisfy all three CAM applicability criteria, CAM does not apply to S-8, A-8, or A-9.

The permitted municipal solid waste (MSW) transfer station and recyclable materials recovery facility (MRF) (S-1, S-2, S-3, S-4, S-5, and S-6) are not subject to any federal requirements other than SIP requirements. These operations are subject to several BAAQMD regulations and to permit conditions. All applicable requirements are described in detail in Section IV of the permit. The transfer station, sorting area, material handling operations and stockpiles (S-1, S-2, S-4, S-5, and S-6) are controlled by water sprays to reduce the formation of PM emissions. In accordance with 40 CFR Part 64.2, water sprays are not considered to be control devices under

CAM because they prevent the formation of emissions rather than actively removing or destroying pollutants. Therefore, these operations are not subject to CAM.

The S-3 Wood Shredder is abated by a CAM defined control device (the A-5 Baghouse). The maximum permitted throughput rate for this shredder is 255 tons/day. From District's Permit Handbook, Chapter 11.13 (Grinders), the highest uncontrolled PM_{10} emission factor for shredding operations is 0.024 lbs/ton. Maximum uncontrolled emissions from S-3 are:
(255 tons/day)*(365 days/year)*(0.024 lbs PM_{10}/ton)/(2000 lbs/ton) = 1.12 tons/year of PM_{10}
Since maximum potential uncontrolled PM_{10} emissions from S-3 are less than the major source threshold of 100 tons/year, CAM does not apply per 40 CFR 64.2(a)(3).

The S-7 diesel fired emergency back-up generator engine does not have any control devices. Therefore, CAM does not apply to S-7.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance for the period from 4/18/2003 to 11/5/2012, and has determined that City of Sunnyvale SMaRT Station and Landfill was in continuous compliance from the initial permit period through the present. There was no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of Title V permit compliance schedule for this facility. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and

enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted; all "underline" language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources so as to help ensure compliance with District rules addressing preconstruction review. The applicability of preconstruction review depends on whether there is a "modified source" as defined in District Rule 2-1-234. Whether there is a modified source depends in part on whether there has been an "increase" in "emission level." 2-1-234 defines what will be considered an emissions level increase, and takes a somewhat different approach depending on whether a source has previously permitted by the District.

Sources that were modified or constructed since the District began issuing new source review permits will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding "emission level" for purposes of 2-234.1 and 2-1-234.2. By contrast, for older sources that have never been through preconstruction review (commonly referred to as "grandfathered" sources), an "increase" in "emission level" is addressed in 2-1-234.3. A grandfathered source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 3) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is "bottlenecked"), then the relaxing of that limitation ("debottlenecking") is considered a modification.

The District has written throughput limits into the Title V permit for grandfathered sources. As discussed above, these limits are written for the purpose of determining whether an increase in emission levels has occurred. The purpose of these limits is to facilitate implementation of preconstruction review program. If these limits are exceeded, the facility would be expected to report the exceedence, and the District would treat the reported exceedence as presumptively establishing the occurrence of a modification. The facility would then be expected to apply for a preconstruction permit addressing the modification and the District would consider whether an enforcement action was appropriate.

It is important to note the presumptive nature of throughput limits for grandfathered sources that are created in the Title V permit. These limits are generally based upon the District's review of information provided by the facility regarding the design capacity or highest documented capacity of the grandfathered source. To verify whether these limits reflect the true design, documented, or "bottlenecked" capacity (pursuant to 2-10234.1) of each source is beyond the resource abilities of the District in this Title V process. Moreover, the District cannot be completely confident that the facility has had time or resources necessary to provide the most accurate information available in this regard. Creating throughput limits in the Title V permit for grandfathered sources is not required by either Part 70 or the District's Major Facility Review rules. Despite the lack of such a requirement, and despite the resource and information challenges presented in the Title V process, the District believes that writing presumptive limits for grandfathered sources into the Title V permit will provide a measure of predictability regarding the future applicability of the preconstruction review program, and that this increased predictability is universally beneficial.

It follows from the presumptive nature of these throughput limits for grandfathered sources that exceedence of these limits is not per se a violation of the permit. *Failure to report an exceedence would be a permit violation.* In this sense, the throughput limits function as monitoring levels, and are imposed pursuant to the District's authority to required monitoring that provide a reasonable assurance of compliance. If an exceedence occurs, the facility would have an opportunity to demonstrate that the throughput limit in fact did not reflect the appropriate limit for purposes of 2-1-234.3. If the facility can demonstrate this, no enforcement action would follow, and the permit would be revised at the next opportunity. It also follows that compliance with these limits is not a "safe harbor" for the facility. If evidence clearly shows that a grandfathered source has undergone a "modification" as defined in 2-1-234.3, the District would consider that a preconstruction review-triggering event, notwithstanding compliance with the throughput limit in the Title V permit. In other words, the protection afforded the facility by complying with the throughput limit in the Title V permit is only as strong as the information on which it was based. There is no Title V "permit shield" associated with throughput limits for grandfathered sources, as they are being proposed. A shield may be provided if the District determines with certainty that a particular limit is appropriate for purposes of 2-1-234.3.

Conditions that are obsolete or that have no regulatory basis have been deleted from the permit.

Conditions have also been deleted due to the following:

- Redundancy in record-keeping requirements.
- Redundancy in other conditions, regulations and rules.
- The condition has been superseded by other regulations and rules.
- The equipment has been taken out of service or is exempt.
- The event has already occurred (i.e. initial or start-up source tests).

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO which limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

The specific changes to each set of permit conditions is discussed in more detail below.

Condition # 5367

- The District identified the A-1 Wet Suppression System that is being used to control emissions from the S-1 Solid Waste Transfer Station in the applicable source list for this condition and in Part 2.
- In Part 1, the District corrected the text for the throughput limit to indicate that it applies on a calendar day basis and added a basis for this part.
- The District added Part 2 to clarify that these particulate emission limits apply to this source.
- The District added Part 3 visual observation requirements to demonstrate compliance with the Regulation 6 visible emission limits.
- The District added Part 4 record keeping requirements to demonstrate compliance with the Part 1 throughput limit.

Condition # 5368

- The District corrected the bases for all parts by removing BACT from the basis. Since uncontrolled emissions from this source were less than 10 pounds/day, this source did not trigger BACT. The District also replaced the general basis description of "toxics" with the specific exemption from health risk screening requirements that applies to sources that low toxic emissions: Regulation 2-5-110.
- In Part 3, the District clarified that the throughput limit applies on a calendar day basis.
- In Part 4, the District deleted reference to A-2, because the water sprays were not given a separate device number. The District also clarified the types of unloading operations that may require water sprays prior to unloading.
- The District added Part 5 visual observation requirements to demonstrate compliance with the Regulation 6 visible emission limits.
- The District made editorial corrections to Part 6.

Condition # 5369

- The District corrected the bases for Parts 1 and 3 by removing BACT from the basis. Since uncontrolled emissions from this source were less than 10 pounds/day, this source did not trigger BACT. The District also replaced the general basis description of "toxics" with the specific exemption from health risk screening requirements that applies to sources that low toxic emissions: Regulation 2-5-110.
- In Part 3, the District clarified that the throughput limit applies on a calendar day basis.
- The District made editorial corrections to Parts 2 and 4-7.

Condition # 5370

- In Part 1, the District clarified that the throughput limit applies on a calendar day basis.
- The District corrected the basis for Part 1 by removing "BACT" since uncontrolled emissions from this source were less than 10 pounds/day and did not trigger BACT.
- The District made editorial corrections to Part 2.
- The District added Part 3 visual observation requirements to demonstrate compliance with the Regulation 6 visible emission limits.

Condition # 5371

- In Part 1, the District clarified that the throughput limit applies on a calendar day basis.
- The District corrected the bases for Parts 1 and 2 by removing "BACT" since uncontrolled emissions from this source were less than 10 pounds/day and did not trigger BACT.
- The District added Part 3 visual observation requirements to demonstrate compliance with the Regulation 6 visible emission limits.
- The District made editorial corrections to Part 4.

Condition # 11586

- In Part 1, the District moved the landfill gas control system description to Part 4 and added statements to indicate that this landfill is closed and may not accept waste for disposal without first obtaining written authorization from the District. This statement clarifies the operating status of the landfill, which was missing from these permit conditions.
- In Parts 2-3, the District added and modified text to clarify the operating requirements for and the description of the landfill gas collection system. In particular, the District generally considers changes to the gas collection system to be alterations that require a change of permit conditions rather modifications that require an authority to construct.
- The District added requirements for the replacement landfill gas flare (A-9) to Parts 4-14.
- The District removed a redundant temperature monitoring requirement from Part 5 (see Part 11) and made editorial corrections to Part 11.
- In Part 12, the District clarified the specific source testing frequency and procedures and the basis for these requirements that currently apply to the A-8 flare pursuant to the CARB landfill methane control measure, District regulations, and new source review requirements. The District added the requirements that will apply to the A-9 flare when it is installed and operating.

- The District added a landfill gas characterization requirement as Part 13 to obtain site-specific landfill gas data that will be used to correct the emission factors and toxic inventory data for this landfill, which is out of date and overly conservative.
- The District added a the shutdown provisions that apply to A-8 in order for the District to consider the on-site reductions from A-8 in the new source review emissions inventory assessment for this site. Notification requirements were added to ensure compliance with this shutdown date limit.

Condition # 22820

- The District replaced the existing Condition # 18922 for the S-7 Diesel Engine for the Emergency Standby Generator with standard template Condition # 22820. Condition # 22820 includes the CARB ATCM operating limit of 20 hours/year for reliability related operation that applies to S-7. Note that the template Condition #22820 includes a Part 5 section that only applies to sites that are located near schools. Since S-7 is not located within 500 feet of a school, Part 5 does not apply to S-7.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements**.** It follows that, although Title V calls for a re-examination of all monitoring**,** there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation**.** Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring requirements only when it can support a conclusion that existing monitoring is inadequate**.**

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for all other limits and has determined that monitoring is adequate to provide a reasonable assurance of

compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Solid Waste Transfer Station, S-2 Wood Waste Unloading Operation, S-3 Wood Shredder, and A-5 Baghouse Dust Collector S-4 Conveyor, S-5 Wood Chip Processing Hoppers, S-6 Wood Chip Screening Operation	BAAQMD Regulation 6-1-301 and SIP 6-301	Ringelmann 1.0	Visual Observation of Source During Operation
A-8 Landfill Gas Flare and A-9 Landfill Gas Flare	BAAQMD Regulation 6-1-301 and SIP 6-301	Ringelmann 1.0	None
S-7 Diesel Engine for an Emergency Standby Generator	BAAQMD Regulation 6-1-303 and SIP 6-303	Ringelmann 2.0	None
S-7 Diesel Engine for an Emergency Standby Generator, A-5 Baghouse Dust Collector, A-8 Landfill Gas Flare, and A-9 Landfill Gas Flare	BAAQMD Regulation 6-1-310 and SIP 6-310	$\leq$ 0.15 grains/dscf	None
S-3 Wood Shredder, S-4 Conveyor, S-5 Wood Chip Processing Hoppers, and S-6 Wood Chip Screening Operation	BAAQMD Regulation 6-1-311 and SIP 6-311	$E = 0.026(P)^{0.67}$ where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P >57,320 lb/hr (or P > 28.66 tons/hr)	Calculations and Records

PM Discussion:

Visible Emissions:

BAAQMD Regulation 6-1-301 and SIP Regulation 6-301 limit visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Sources S-1, S-2, S-3, S-4, S-5, and S-6 are expected to operate in compliance with this opacity limitation. For material handling and processing operations that may generate particulate matter, visual observation of the source during operation is a standard method of demonstrating compliance with an opacity limit. The District is adding this standard monitoring method to the permit conditions for these sources.

The A-8 and A-9 Landfill Gas Flares are also subject to BAAQMD Regulation 6-1-301 and SIP Regulation 6-301. For properly operating combustion devices, visible emissions are not normally observed during the combustion of gaseous fuels, such as natural gas or landfill gas. Since PM10 emissions from A-8 and A-9 are not substantial and visible emissions are unlikely, the District is not proposing any monitoring at A-8 or A-9 for this standard.

PM10 PTE for A-8:
(45 MM BTU/hour)*(24 hrs/day)*(365 days/year)/(400 MM BTU/MM scf)*
(0.4 MM scf CH4/MM scf)*(17 lbs PM10/MM scf CH4)/(2000 lbs/ton)
= 3.35 tons/year of PM10

PM10 PTE for A-9:
(18 MM BTU/hour)*(24 hrs/day)*(365 days/year)/(400 MM BTU/MM scf)*
(0.4 MM scf CH4/MM scf)*(17 lbs PM10/MM scf CH4)/(2000 lbs/ton)
= 1.34 tons/year of PM10

Visible Emissions:

BAAQMD Regulation 6-1-303 and SIP Regulation 6-303 limit visible emissions to no darker than 2.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Properly operating diesel engines are expected to operate in compliance with this opacity limitation. In light of the infrequent operating time for this emergency engine and the low PM10 emissions, the District is not proposing any monitoring at S-7 for this standard.

PM10 PTE for S-7:
(540 bhp)*(1.0 g/bhp-hr)*(500 hrs/year)/(453.6 g/lb)/(2000 lbs/ton)
= 0.30 tons/year of PM10

Particulate Weight Limitation:

BAAQMD Regulation 6-1-310 and SIP Regulation 6-310 limit the grain loading of particulate matter in any stack to 0.15 grains/sdcf. Properly operating baghouses are expected to meet this grain load limit. For A-5, the District is proposing to add a requirement to monitor the pressure drop across the baghouse to ensure the baghouse is operating properly. Monitoring for grain loading limit in addition to pressure drop is not justifiable considering the low PM10 emission rate entering this baghouse.

PM10 PTE for S-3 (upstream of A-5):
(255 tons/day)*(365 days/year)*(0.024 lbs uncontrolled PM10/ton)/(2000 lbs/ton)
= 1.45 tons/year of PM10 (uncontrolled from S-3)

The A-8 and A-9 Landfill Gas Flares are also subject to BAAQMD Regulation 6-1-310 and SIP Regulation 6-310. Based on the AP-42 emission factor and an assumed landfill gas methane content of 40%, the grain loading from A-8 or A-9 at theoretical combustion conditions (0% excess oxygen) will be 0.012 grains/sdcf of exhaust gas. The grain loading will be much lower at typical excess oxygen levels. Since this grain loading rate is far below the standard, non-compliance with this standard is highly unlikely. Since PM10 emissions from A-8 and A-9 are not substantial and non-compliance is unlikely, the District is not proposing any monitoring for this standard at A-8 or A-9.

Grain Loading Calculation for A-8 and A-9:
(17 lbs PM10/1E6 scf CH4)*(7000 grains/lb)*(0.4 scf CH4/scf LFG)*
(1 scf LFG/4.0 dscf flue at 0% O2) = 0.012 grain/sdcf a 0% excess oxygen

The S-7 Diesel Engine for an Emergency Standby Generator is subject to BAAQMD Regulation 6-1-310 and SIP Regulation 6-310. This engine is only expected to operate for 20 hours per year plus for emergency conditions and has a PM10 PTE of 0.3 tons/year. Monitoring for grain loading from diesel engines is expensive. Considering the low operating rate for S-7 and the low emissions from S-7, this type of monitoring is not warranted. Therefore, the District is not proposing any monitoring for this standard at S-7.

Particulate Emission Rate Limit:

BAAQMD Regulation 6-1-311 and SIP Regulation 6-311 limit the particulate emission rate during material processing operations based on the material processing rate. The S-3 Wood Shredder, S-4 Conveyor, S-5 Wood Chip Processing Hoppers, and S-6 Wood Screening Operation are limited to processing 255 tons/day of wood waste. Using the Regulation 6-1-311 equation for this standard, a processing rate of 255 tons/day results in an emission limit of:
E = 0.026 * (255*2000)^0.67 = 173.4 pounds/day

Based on AP-42 emission factors, the maximum daily uncontrolled emission rates for these wood waste operations (S-3, S-4, S-5, and S-6) are: 6.12 pounds/day, 0.28

pounds/day, 0.28 pounds/day, and 1.10 pounds/day, respectively. These uncontrolled emission rates are far below the Regulation 6-1-311 standard, and the water spray emission controls required at these sources will further reduce these daily emission levels. There is no possibility that these sources could exceed the 6-1-311 standard. Records of wood waste throughput will ensure that the processing rate limitation is met. No other monitoring is necessary.

Uncontrolled Emission From S-3:
(255 tons/day)*(0.024 lbs uncontrolled PM10/ton) = 6.12 lbs/day of PM10

Uncontrolled Emission From S-4:
(255 tons/day)*(0.00112 lbs uncontrolled PM10/ton) = 0.28 lbs/day of PM10

Uncontrolled Emission From S-5:
(255 tons/day)*(0.00112 lbs uncontrolled PM10/ton) = 0.28 lbs/day of PM10

Uncontrolled Emission From S-6:
(255 tons/day)*(0.0043 lbs uncontrolled PM10/ton) = 1.10 lbs/day of PM10

Organic Emission Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-8 Landfill Gas Flare and A-9 Landfill Gas Flare	BAAQMD 8-34-301.3	NMOC Destruction Efficiency: ≥ 98% removal by weight OR NMOC Outlet Concentration: < 30 ppmv, expressed as methane, dry basis @ 3% O_2	Source Testing
S-8 City of Sunnyvale Sanitary Landfill	BAAQMD 8-34-303	Surface Leak Limit ≤ 500 ppmv of TOC expressed as methane measured at 2 inches above surface	Surface Sweeps

Organic Emissions Discussion:

NMOC Limits:

BAAQMD Regulation 8-34-301.3 limits the NMOC emissions from landfill gas flares (A-8 and A-9). Annual source testing is the standard method of demonstrating compliance with this limit. Since this site currently meets the requirements of Regulation 8-34-119 and 120, source testing has not been routinely conducted. Instead, monitoring of the combustion zone temperature for A-8 and keeping this temperature above the 1400 ^{o}F limit has typically been used to assure compliance with the NMOC limit in Regulation 8-34-301.3. Since CARB's landfill methane control measure requires source testing for A-8 to demonstrate compliance with the methane destruction efficiency requirement,

source testing has been added as a requirement for A-8 to also demonstrate compliance with the Regulation 8-34-301.3 NMOC limit. Note that source testing is required as a condition of the Authority to Construct for the A-9 replacement flare to demonstrate compliance with the NO_x, CO, and SO_2 limits that apply to S-9 in addition to the Regulation 8-34-301.3 NMOC limits that apply to all landfill gas flares.

TOC Limit:

For the S-8 City of Sunnyvale Sanitary Landfill, BAAQMD Regulation 8-34-303 limits the leaks from any point on the landfill surface (measured at 2 inches above the surface) to 500 ppmv of total organic compounds (TOC) including methane and expressed as methane. Since this site currently meets the requirements of Regulation 8-34-119 and 120, quarterly surface leak testing had not been required to demonstrate compliance with this surface leak limit. However, monthly cover integrity monitoring is required, and the site is subject to unannounced spot-checking by District enforcement staff. More recently, CARB has adopted a GHG landfill methane control measure that requires quarterly or annual surface sweeps for both this instantaneous surface leak limit and an integrated surface leak limit that is new to the BAAQMD. In accordance with this state regulation, the City of Sunnyvale has initiated surface leak monitoring at this source. No additional surface leak monitoring requirements are necessary.

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-7 Diesel Engine for an Emergency Standby Generator and A-8 Landfill Gas Flare and A-9 Landfill Gas Flare	BAAQMD 9-1-301	Property Line Ground Level Limits: $\leq$ 0.5 ppm for 3 minutes, AND $\leq$ 0.25 ppm for 60 minutes, AND $\leq$ 0.05 ppm for 24 hours	None
S-7 Diesel Engine for an Emergency Standby Generator	BAAQMD 9-1-301	$\leq$ 300 ppm (dry basis)	None
A-8 Landfill Gas Flare and A-9 Landfill Gas Flare	BAAQMD 9-1-301	$\leq$ 300 ppm (dry basis)	Source Testing
S-7 Diesel Engine for an Emergency Standby Generator	BAAQMD 9-1-304	$\leq$ 0.5% by weight	CARB Diesel Fuel Sulfur Content Limits, Sales Restrictions, Usage Requirement and Records

SO_2 Discussion:

Property Line Ground Level Limits:

BAAQMD Regulation 9-1-301 establishes ground level sulfur dioxide (SO2) concentration limits that apply at the boundary of a facility. This limit applies to all sources of SO_2 at a site. Area monitoring to demonstrate compliance with the ground level SO_2 limits is required at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This type of area monitoring is typically only required for very large sources of SO_2. This facility does not have any equipment that emits large amounts of SO_2. Modeling conducted for another landfill site demonstrated that complying with the Regulation 9-1-302 and Regulation 9-1-304 limitations would result in compliance with the Regulation 9-1-301 ground level standards. Since area monitoring is very expensive, SO_2 emissions from this site are low, and this site is expected to comply with the ground level standards, the District is not proposing any monitoring for this standard.

Potential to Emit for A-8 Landfill Gas Flare (1):	24.47 tons/year of SO_2
Potential to Emit for A-9 Landfill Gas Flare (1):	9.79 tons/year of SO_2
Potential to Emit for S-7 Standby Diesel Engine (2):	<0.002 tons/year of SO_2
Total Potential to Emit for Permitted Sources:	24.5 tons/year of SO_2

(1) Maximum potential SO_2 emissions were determined based on flare capacity (45 MM BTU/hour for A-8 and 18 MM BTU/hour for A-9) and a maximum expected landfill gas sulfur content of 300 ppmv expressed as H_2S. Testing of landfill gas at similar closed landfills found far lower sulfur contents (typically less than 50 ppmv of total reduced sulfur content in LFG) than this maximum expected level.
A-8: (45 E6 BTU/hr)*(24 hrs/day)*(365 days/yr)/(400 BTU/scf LFG)*(300 scf S/1E6 scf LFG) *(1 scf SO_2/1 scf S)/(387 ft^3/lbmol)*(64.06 lbs SO_2/lbmol)/(2000 lbs/ton) = 24.47 tons/year of SO_2
A-9: (18 E6 BTU/hr)*(24 hrs/day)*(365 days/yr)/(400 BTU/scf LFG)*(300 scf S/1E6 scf LFG) *(1 scf SO_2/1 scf S)/(387 ft^3/lbmol)*(64.06 lbs SO_2/lbmol)/(2000 lbs/ton) = 9.79 tons/year of SO_2

(2) For diesel engines, the maximum potential SO_2 emissions were determined based on the CARB diesel fuel sulfur content limit (15 ppm S by weight). This is equivalent to an SO_2 emission rate of 0.005 g/bhp-hr. The operating time for S-7 is assumed to be 500 hours/year total for testing and emergency use.
(0.005 g SO_2/bhp-hr)*(540 bhp)*(500 hrs/yr)/453.6 g/lb)/(2000 lbs/tom) = 0.0015 tons/year of SO2

Sulfur Dioxide Concentration Limit:

BAAQMD Regulation 9-1-302 limits the SO_2 concentration in any exhaust point to 300 ppmv of SO_2. The S-7 Diesel Engine is required to use CARB diesel fuel, which has a sulfur content limit of 15 ppmw. Using the EPA flue gas factor for diesel oil (9190 sdcf flue gas/MM BTU), this sulfur content limit results in an SO_2 outlet concentration of:
(26 gal/hr)*(7.1 lbs/gal)*(15E-6 lbs S/lb)*(64.06 lbs SO_2/32.06 lbs S) = 0.006 lbs SO_2/hr
(4.2 MM BTU/hr)*(9190 scf/MM BTU) = 38,598 sdcf/hr
(0.006 lbs SO_2/hr)/(38598 sdcf/hr)/(64.06 lbs SO_2/lbmol)*(387 scf/lbmol)
= 1E-6 ft^3 SO_2/ft^3 flue gas = 1 ppm SO_2

Therefore, using CARB diesel fuel at S-7 will ensure that S-7 complies with the Regulation 9-1-302 SO_2 outlet concentration limit. CARB has required that this low

sulfur diesel fuel be used in California since 2006. The site is required by permit conditions and state regulations to keep records to demonstrate that only CARB diesel fuel is used at S-7. No additional monitoring at S-7 is necessary to assure compliance with the Regulation 9-1-302 standard.

The A-8 and A-9 Landfill Gas Flares are also subject to this 300 ppmv SO_2 outlet concentration limit. Landfill gas has a minimum flue gas factor of 4 scf flue gas/1 scf of landfill gas burned. The maximum expected landfill gas sulfur content for this site is 300 ppmv. The maximum concentration of SO_2 in the flue gas will be:
(300 ft^3 S/1 MM ft^3 LFG)*(1 ft^3 SO_2/1 ft^3 S)*(1 MM ft^3 LFG/4 MM ft^3 flue gas)
= 75 ppmv of SO_2 in flue gas

Therefore, the combustion of landfill gas from this site is expected to comply with the Regulation 9-1-302 SO_2 outlet concentration limit. Based on testing conducted at other closed Bay Area landfills, the District has found that the landfill gas sulfur content in gas collected from closed landfills does not vary significantly. The District also expects that the landfill gas sulfur content at this site will likely be 50 ppmv or less based on test data for similar landfill sites. Since the actual landfill gas sulfur content has not been measured at this site, the District is proposing to add monitoring to assure compliance with this standard. However, in light of the low variability of landfill gas sulfur content and the projected high margin of compliance, the District has determined that annual source testing is adequate to demonstrate compliance with this standard. This testing has been added in Condition # 11586, Part 12.

Liquid Fuel Sulfur Content Limit:

BAAQMD Regulation 9-1-304 limits the sulfur content of liquid fuels to 0.5% by weight. The S-7 Diesel Engine is required to use CARB diesel fuel, which has a sulfur content limit of 15 ppmw (0.0015% by weight). Therefore, complying with the permit conditions and state regulations that require this site to use CARB diesel fuel at S-7 will also ensure compliance with Regulation 9-1-304. The regulations require the site to maintain records to demonstrate that the fuel purchased and used at S-7 is CARB diesel fuel. No additional monitoring at S-7 is necessary to meet this standard.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not "applicable requirements" as defined by Regulation 2-6-202.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's "White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program." The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields. This permit has no streamlining.

X. Revision History

This section of the permit summarizes each revision to the permit. For this initial Title V permit issuance, only the changes to the existing permit conditions are summarized in this section.

XI. Glossary

This section of the permit defines and explains acronyms, abbreviations, and other terms that are used in this permit.

D. Alternate Operating Scenarios:

No alternate operating scenarios have been requested for this facility.

E. Compliance Status:

A June 3, 2013 office memorandum from the Director of Compliance and Enforcement, to the Director of Engineering, presents a review of the compliance record of City of Sunnyvale (Site # A5905). This review was initiated as part of the District evaluation of an application for an initial Title V permit and is contained in Appendix A.

The Compliance and Enforcement Division staff has reviewed the compliance history for City of Sunnyvale for the prior nine-year period. The Compliance and Enforcement Division staff found no on-going non-compliance and no recurring pattern of violations.

The Compliance and Enforcement Division staff reviewed the compliance history for this site from April 18, 2003 through May 23, 2013. During this period, activities known to the District include:

- The District issued 1 Notice of Violation. A violation was issued on July 23, 2006 for a violation of Regulation 8-34-301 for failing to collect and process landfill gas. The problem was corrected and no further action was taken.
- The District received no air pollution complaints alleging City of Sunnyvale as the source.
- The District received 26 notifications of a Reportable Compliance Activity (RCA) during this period. Two RCAs were for an inoperative monitor and were reported as required by District regulations. The other RCAs involved a failure to collect and process landfill gas on a continuous basis. One of these RCAs resulted in the July 2006 violation noted above. No action was taken on the other RCAs.
- The facility is not operating under an Enforcement Agreement, a Variance, or an Order of Abatement.

The Compliance and Enforcement Division has determined that for the periods reviewed, the City of Sunnyvale was in continuous compliance from the initial permit period through the present. There is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule.

F. Differences Between the Application and the Proposed Permit:

The District included the A-9 replacement flare in this proposed Title V permit. This A-9 flare was not identified in the original application submittal. In addition, the District removed the A-3 Carbon Adsorber, which was never installed at this site, and made corrections to the source descriptions and abatement trains for S-1, S-3, S-6, A-1, and A-5.

Existing operating conditions have been modified – as described in Section C.VI of this report - to clarify throughput limits, to add the monitoring requirements discussed in Section C.VII, to correct condition bases, and to make editorial improvements.

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

June 3, 2013

TO: JIM KARAS – DIRECTOR OF ENGINEERING

FROM: WAYNE KINO – DIRECTOR OF COMPLIANCE & ENFORCEMENT

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

CITY OF SUNNYVALE LANDFILL AND SMaRT STATION/PUBLIC WORKS DEPARTMENT; SITE # A5905

Background

This review was initiated as part of the District evaluation of an application by City of Sunnyvale Landfill and SMaRT Station/Public Works Department (City of Sunnyvale) for a Title V Permit. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a Title V Permit. The purpose of this review is to assure that any non-compliance problems identified during the prior nine-years permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

The City of Sunnyvale operates a landfill gas collection system, a solid waste transfer station, wood chipping, and recycling operation.

Compliance Review

Compliance records were reviewed for the time period from April 18, 2003 through May 23, 2013. The results of this review are summarized as follows.

1. Violation History

Staff reviewed City of Sunnyvale Annual Compliance Certifications and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for the review period. During this period City of activities known to the District include:

District-issued one Notice of Violation (NOV):

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A47733	8-34-301	7/23/2006	1	Denial of breakdown request for Reportable Compliance Activity #04W04	No Further Action Legal

2. Complaint History

The District received zero air pollution complaints alleging City of Sunnyvale as the source over this period.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the review period, the District received 26 notifications for RCA's. One NOV was issued as a result of these RCA's.

The District received 26 notifications for RCA:

Episode	Date Occur	# of Days	Comments	Disposition
04K60	1/29/2005	1	Possible Landfill gas (LFG) from landfill/LFG Emissions	Breakdown granted
04S84	2/14/2006	1	Intermittent power loss continues flow flare & Internal Combustion (IC) engines	None required (Inoperative monitor)
04S85	2/13/2006	1	Intermittent power loss continues flow flare & IC engines	None required (Inoperative monitor)
04U14	5/1/2006	1	Pacific Gas and Electric (PG&E) power failure caused outage	Breakdown granted
04W04	7/23/2006	1	Power outage resulting in Gas Collection System (GCS) downtime-loss of blowers	NOV A47733 (No Further Action Legal)
05A12	4/27/2007	1	Loss of GCS blowers due to power outage	Breakdown granted
05A86	6/26/2007	1	PG&E power interruption, loss of plant generators/power	Breakdown granted
05A94	6/26/2007	1	PG&E power interruption, loss of plant generators/power	Breakdown granted (Excess emission)

06B79	8/26/2007	1	Loss of power to all of the plant	Breakdown granted
05C04	8/30/2007	1	Loss of power due to PG&E outage	Breakdown granted
05C69	11/20/2007	1	PGF generators shutdown due to mechanical failure	Breakdown granted
05F72	5/15/2008	1	Power loss, PGF generators tripped off	Breakdown granted
05K64	1/19/2009	1	#2 generator went down with high water temp during repairs of #1	Breakdown granted
05R81	1/28/2010	1	Component that controls temperature failed	Breakdown granted
05W91	11/20/2010	1	Loss of power caused generators to power off	Breakdown granted
05Y29	2/1/2011	1	PG&E power loss	Breakdown granted
05Y55	2/18/2011	1	Loss of power	Breakdown granted
05Z67	5/8/2011	1	PG&E power loss	Breakdown granted
05Z71	5/9/2011	1	Loss of main utility power causing Landfill Gas Flare generator shutdown	Breakdown granted
05Z83	5/18/2011	1	PG&E activated remote trip relay, generator trip	Breakdown granted
06D24	1/20/2012	1	Loss of PG&E power caused gas collection system to go down	Breakdown granted
06E70	4/16/2012	1	LFG collection system down due to power outage	Breakdown granted
06F09	5/7/2012	1	Lost utility power due to power outage/generator problem	Breakdown granted
06F27	5/17/2012	1	Generator abatement device output had dropped to zero	Breakdown granted
06G96	9/25/12	1	PG&E power outage	Breakdown granted
06J27	12/31/12	1	PG&E power outage	Breakdown granted

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for City of Sunnyvale over review period.

Conclusion

Following its review of all available facility and District compliance records from April 18, 2003 through May 23, 2013, the District's Compliance and Enforcement Division has determined that City of Sunnyvale was in continuous compliance from the initial permit

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for City of Sunnyvale Sunnyvale SMaRT Station and Landfill over review period.

Conclusion

Following its review of all available facility and District compliance records from April 18, 2003 (the date District received the permit application) through November 5, 2012, the District's Compliance and Enforcement Division has determined that City of Sunnyvale Sunnyvale SMaRT Station and Landfill was in continuous compliance from the initial permit period through the present. City of Sunnyvale Sunnyvale SMaRT Station and Landfill has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility.

Based on this review and analysis of all the violations for the review period, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current Title V permit.

APPENDIX B

GLOSSARY

ACT
Federal Clean Air Act

AP-42
An EPA Document "Compilation of Air Pollution Emission Factors" that is used to estimate emissions from numerous source types. It is available electronically from EPA's web site at: http://www.epa.gov/ttn/chief/ap42/index.html

APCO
Air Pollution Control Officer: Head of Bay Area Air Quality Management District

ARB
Air Resources Board (same as CARB)

ASTM
American Society for Testing and Materials

ATC
Authority to Construct

ATCM
Airborne Toxic Control Measure

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

Basis
The underlying authority that allows the District to impose requirements.

C1
An organic chemical compound with one carbon atom, for example: methane

C3
An organic chemical compound with three carbon atoms, for example: propane

C5
An organic chemical compound with five carbon atoms, for example: pentane

C6
An organic chemical compound with six carbon atoms, for example: hexane

C_6H_6
Benzene

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CARB
California Air Resources Board (same as ARB)

CCR
California Code of Regulations

CEC
California Energy Commission

CEQA
California Environmental Quality Act

CEM
A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NOx concentration) in an exhaust stream.

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CH4 or CH_4
Methane

CI
Compression Ignition

CIWMB
California Integrated Waste Management Board

CO
Carbon Monoxide

CO2 or CO_2
Carbon Dioxide

CT
Combustion Zone Temperature

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

E6, E9, E12
Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53E6 equals (4.53) x (10^6) = (4.53) x (10x10x10x10x10x10) = 4,530,000. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EG
Emission Guidelines

EO
Executive Order

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, Subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

FR
Federal Register

GLM
Ground Level Monitor

Grains
1/7000 of a pound
GDF
Gasoline Dispensing Facility

H2S or H_2S
Hydrogen Sulfide

H2SO4 or H_2SO_4
Sulfuric Acid

H&SC
Health and Safety Code

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Hg
Mercury

HHV
Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

LFG
Landfill gas

LHV
Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60^{o}F.

Long ton
2200 pounds

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MAX or Max.
Maximum

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MIN or Min.
Minimum

MOP
The District's Manual of Procedures.

MSDS
Material Safety Data Sheet

MSW
Municipal solid waste

MW
Molecular weight

N2 or N_2
Nitrogen

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NO2 or NO_2
Nitrogen Dioxide

NOx or NO_x
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2 or O_2
Oxygen

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM2.5 or $PM_{2.5}$
Particulate matter with aerodynamic equivalent diameter of less than or equal to 2.5 microns

PM10 or PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

PV or P/V Valve
Pressure / Vacuum Valve

Regulated Organic Liquid
"Regulated organic liquids" are those liquids which require permits, or which are subject to some regulation, when processed at a liquid-handling operation. For operation, for refinery marine terminals, regulated organic liquids are defined as "organic liquids" in Regulation 8, Rule 44.

RMP
Risk Management Plan

RWQCB
Regional Water Quality Control Board

S
Sulfur

Short ton
2000 pounds

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2 or SO_2
Sulfur dioxide

SO3 or SO_3
Sulfur trioxide

SSM
Startup, Shutdown, or Malfunction

SSM Plan
A plan, which states the procedures that will be followed during a startup, shutdown, or malfunction, that is prepared in accordance with the general NESHAP provisions (40 CFR Part 63, Subpart A) and maintained on site at the facility.

TAC
Toxic Air Contaminant (as identified by CARB)

THC
Total Hydrocarbons (NMHC + Methane)

Therm
100,000 British Thermal Units

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC
Total Organic Compounds (NMOC + Methane, Same as THC)

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Policy

TRS
Total Reduced Sulfur, which is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to, hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO_2 that will be present in the combusted fuel gas, since sulfur compounds are converted to SO_2 by the combustion process.

TSP
Total Suspended Particulate

TVP
True Vapor Pressure

VMT
Vehicle Miles Traveled

VOC
Volatile Organic Compounds

Symbols:

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

Units of Measure:

atm	=	atmospheres
bbl	=	barrel of liquid (42 gallons)
bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft^3	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains
hp	=	horsepower
hr	=	hour
lb	=	pound
lbmol	=	pound-mole
in	=	inches
kW	=	kilowatts
m^2	=	square meter
m^3	=	cubic meters
min	=	minute
mm	=	million
MM	=	million
MM BTU	=	million BTU
Mcf	=	on thousand cubic feet
MMcf	=	million cubic feet
Mg	=	mega grams
MW	=	megawatts
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
ppm	=	parts per million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
yd	=	yard
yd^3	=	cubic yards
yr	=	year